DOCUMENT RESUME

ED 472 684 SP 041 331

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TITLE	Meeting the Unmet Challenge: Alternative Certification Programs through the Use of Technology.
PUB DATE	2002-02-00
NOTE	16p.; Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education (54th, New York, NY, February 23-26, 2002).
PUB TYPE	Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Alternative Teacher Certification; *Computer Uses in Education; Elementary Secondary Education; Faculty Development; Higher Education; Internet; Online Courses; Preservice Teacher Education; *Special Education Teachers; *Teacher Shortage
IDENTIFIERS	Texas

ABSTRACT

Quality education is dependent in large measure on the supply of qualified teachers. Each year, the number of students enrolled in the nation's schools increases, and the shortage of teachers grows. Traditional teacher preparation programs currently do not produce enough educators to meet the needs of school districts. The shortage is particularly acute in areas such as special education. This project is designed to deliver professional development and special education courses through the Internet to students enrolled in an alternative teacher certification program. Delivery of courses through technology serves to reduce obstacles to program completion. Results of state-mandated competency testing indicate that the performance of students who participated in the project exceeded that of students who did not participate in the project. Results confirm the effectiveness of courses delivered using technology and have implications for expanding this mode of delivery. (Contains 10 references.) (Author/SM)

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ED 472 684

Meeting the Unmet Challenge: Alternative Certification Programs Through the Use of Technology

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Presented at the Annual Meeting of the

American Association of Colleges of Teacher Educators

New York City, New York

February, 2002

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Meeting the Unmet Challenge: Alternative Certification Programs Through the Use of Technology

Abstract

Quality education is dependent in large measure on the supply of qualified teachers. Each year the number of students enrolled in the nation's schools increases and the shortage of teachers grows. Traditional teacher preparation programs currently do not produce enough educators to meet the needs of school districts. The shortage is particularly acute in areas such as special education. The project is designed to deliver professional development and special education courses through the Internet to students enrolled in an alternative teacher certification program. Delivery of courses through technology serves to reduce obstacles to program completion. Results of state-mandated competency testing indicate that the performance of students who participated in the project exceeded that of students who did not participate in the project. Results confirm the effectiveness of courses delivered using technology and have implications for expanding this mode of delivery.

Introduction

The quality of a school's curriculum is dependent upon having proficient teachers. Teachers organize instruction, determine the most effective ways to introduce content to learners, and tailor lessons to meet the individual needs and interests of students. Nationally, policymakers have recognized that well-prepared teachers are vital to the development of effective educational programs. The National Commission on Teaching and America's Future (1996) emphasized the need for quality teachers.

While effective education demands proficient teachers, the supply of qualified teachers is not adequate. Increasing enrollment in the nation's schools is creating an increasing demand for teachers. School enrollment increased from 44.9 million in 1985 to 46 million in 1991 (NCES, 1992). According to the U.S. Department of Commerce (1999), the population between the ages of five and 17 in the United States reached 49.7 million by 1996. During the next decade, our nation's teacher preparation programs must produce an additional 2.5 million teachers (American Council on Education, 1999).

Like other states, the state of Texas is experiencing an acute shortage of teachers. According to the State Board for Educator Certification (SBEC), Texas has approximately four million students attending its 7,053 campuses; 8,000 new students are enrolled annually (Texas Association of School Personnel Association, 1999). During the 1998-1999 academic year, Texas public schools employed a total of 250,000 teachers. The state employed 26,000 new teachers during the 1999-2000 academic year. However, Texas prepares approximately 18,000 new teachers a year in 88 teacher preparation programs. Of these 18,000 new educators only 79 percent will enter the teaching

profession. Of those who enter the profession, 15 percent will leave employment after one year of service and one-half will leave the profession by the fifth year of service (Texas Association of School Personnel Association, 1999).

School administrators deal with the teacher shortage in a variety of ways. Choy, Henke, Alt, Medrich, & Bobbett (1993) stated that in 1990-1991 some school administrators filled vacancies with substitute teachers (48%), others hired less qualified teachers (26%), and others assigned the unserved students to existing teachers (23%). Teacher shortages often result in students being offered less challenging course work, being offered fewer course options, and being taught by less qualified teachers.

Many new teachers are not certified. Many who are certified teach outside their major or minor fields of expertise. School administrators would employ certified teachers and assign them to classes in their specialization areas if they were available. Rollefson and Broughman (1994) reported that in the 1990-1991 academic year, only 67.4 percent of public school and 43.8 percent of private school beginning teachers were both certified and teaching in their major or minor fields. Unless teacher preparation programs become proactive, the supply of certified teachers is not likely to increase (National Council on Education Standards and Testing, 1992). We must find new ways to assist qualified individuals who are motivated to teach enter the profession. With fewer traditionally certified teachers available, schools have employed many alternatively certified teachers in recent years. In 1992, West Texas A&M University, in collaboration with Region XVI Education Service Center (ESC) and the Independent School Districts (ISDs) of Region XVI, implemented the Panhandle Alternative Certification for Educators (PACE) program.

The implementation of this program is a truly collaborative endeavor and involves representatives from West Texas A&M University, Region XVI ESC, and faculty and administrators from participating school districts. This program has continued to prepare candidates for certification and to enhance education in West Texas schools by providing dedicated, trained professional teachers of the highest caliber. By August 8, 2000, 90 percent of the PACE students prepared in 2000 were employed as teachers in Texas schools. The program provides excellent teachers who have demonstrated excellence on state-mandated certification exams.

The Challenge of Teaching

Teachers must be prepared to meet the needs of their students in a rapidly changing society. Technology is changing at an ever-increasing rate. Rapid advancements in technology require teachers and administrators to seek professional development training that is responsive to the demands of the information/technology age. Teachers must become proficient in the integration of on-line resources into student-centered learning projects that support information literacy. A teacher's proficiency must go beyond technical skills and focus upon meaningful curricular integration.

Several professional associations have attempted to define proficient teachers. The National Board for Professional Teaching Standards (1991) enumerated five characteristics of effective teachers. They include the following: (1) a commitment to their students and their learning, (2) the knowledge of the content they teach and a knowledge of effective teaching strategies to teach this content, (3) the skill in managing student learning, (4) the knowledge and skills needed to practice reflective thinking, and (5) an active participation in professional activities. These characteristics are similar to

the Texas Proficiencies for Teachers (Texas Education Agency, 1995). These include the following:

I. Learner Centered Knowledge

The teacher possesses and draws on a rich knowledge base of content pedagogy and technology to provide relevant and meaningful learning experiences for all students.

II. Learner-Centered Instruction

To create a learner-centered community, the teacher collaboratively identifies needs and plans, implements, and assesses instruction using technology and other resources.

III. Equity in Excellence for All Learners

The teacher responds appropriately to diverse groups of learners.

IV. Learner-Centered Communication

While acting as an advocate for all students and the school, the teacher demonstrates effective professional and interpersonal skills.

V. Learner-Centered Professional Development

The teacher, as a reflective practitioner dedicated to all students' success, demonstrates a commitment to learn, to improve the profession, and to maintaining professional ethics and personal integrity.

High standards for teachers, as reflected in the Texas Proficiencies for Teachers, will increase the likelihood that every child who enrolls in a Texas school will receive an outstanding education. However, the formidable task facing school districts is employing teachers who have the knowledge, skills, and attitudes needed to be proficient.

State [illegible]er competencies and student curricula objectives (Texas Essential Knowledge and Skills-TEKS) are central to an effective Texas teacher preparation program. The proficiencies and TEKS are integrated into the PACE curriculum by using the knowledge and expertise of the West Texas A&M University faculty, ESC and ISD consultants, and PACE Advisory Council members.

Teachers in Texas are required to demonstrate proficiency on the state mandated comprehensive performance assessment system of multiple measures and standards (ExCET). Test results provide program staff with data needed to monitor educator candidates and to provide a systematic way to monitor the quality of the PACE program. Traditional and performance methods of assessment recorded by ExCET scores, the principal's appraisal, and WTAMU grades for coursework completed by the intern during the internship year all provide data. Direct classroom observation of interns conducted by University supervisors and school mentors provide additional data regarding the effectiveness of the program. Available data demonstrate that the program has been highly successful in preparing quality teachers. Because of this success, a project was initiated to expand the program through the use of technology.

Project Plan

The purpose of this project was to expand the pool of qualified and certified special education teachers in Texas through the use of technology, distance learning and innovative delivery models. In this way, the teacher shortage in one critical area is reduced and at the same time, the use of technology, distance learning and innovative delivery models to produce highly qualified teachers in other shortage areas is evaluated.

Taking college courses while maintaining employment is a significant problem for nontraditional students. The cost of commuting to a university campus is also a significant factor. During the project period, the Division of Education at West Texas A&M University addressed these problems for alternative certification students by developing courses and delivering them over the Internet. These courses were developed and initially delivered in the summer of 2001. While research on the effectiveness of the project is still in progress, preliminary results have shown that the courses were rigorous and well conceived. Students completing the courses reported they had never worked harder, and they had never learned more content.

The primary advantage of taking Internet courses is time flexibility. Nontraditional students who work can complete the majority of their class assignments when they have time available. While our model requires that students communicate each week with their instructor in real time, those commitments are generally satisfied at night when the students and instructors are available. This project provided resources needed to add four special education courses and one educational foundations course to our online offerings. The four special education courses focused upon the specific content, proficiencies and competencies needed by special education teachers. These courses included:

- Survey of Exceptional Learners;
- Programming for Students with Intellectual Disabilities and Multiple Impairments;
- Understanding Students with Learning Disabilities and Emotional Disturbances; and
- Advanced Curriculum Adaptation Techniques for Exceptional Learners.

Additionally, West Texas A&M University Division of Education foundation specialists developed a course that was delivered over the Internet. This course was structured to provide students with the state mandated competencies and proficiencies associated with the foundations and psychological principles of education.

Existing templates based upon Robert Gagne's Nine Events of Instruction were used in design, development and evaluation of the above-referenced Internet courses. The templates were available to course developers and their technical assistants to provide them with an instructional model that maximizes student participation. An instructional technologist from the University Instructional Technology Department monitored and supervised the courses during their development. The External Project Evaluator developed instruments based upon Gagne's Nine Events of Instruction to assess the quality of the courses. These five courses were delivered to students in the PACE Special Education Online Program.

Currently, the recruitment of PACE candidates begins in the fall of each year. Recruitment activities include placing advertisements in area newspapers. Information sessions are scheduled in Amarillo and Lubbock, Texas, as well as other communities, local school districts and organizations to familiarize the public with the program. PACE personnel provide information packets to prospective candidates upon request. Detailed information sessions are conducted at WTAMU in the fall and spring to further inform prospective candidates about the PACE program. Additionally, PACE personnel have made concerted efforts to increase minority enrollment by advertising in minority publications and by making presentations to minority organizations.

Admission to PACE depends upon applicants meeting the program's requirements. Specifically, all PACE applicants must meet the following admission requirements:

- Hold at least a bachelor's degree from an accredited institution of higher learning with a minimum grade point average of 2.5 on a 4.0 scale;
- Pass the reading, writing, and mathematics portions of the state mandated academic proficiency test (TASP);
- Complete 20 hours of observation in a public or accredited private school classroom in at least two different settings;
- Submit a letter of recommendation from a school administrator on school letterhead; and
- Complete a personal interview.

PACE students seeking certification must meet the following additional requirements:

- Have completed 24 semester hours with a minimum grade point average of 2.5 on a 4.0 scale in a combination of these subjects:
    - Mathematics- minimum of three hours
    - English- minimum of three hours
    - Science- minimum of three hours
    - Social studies- minimum of three hours (History, Government, Economics, or Geography)

After PACE applicants are accepted into the program, they must successfully complete the approved online program of study. Applicants who complete the approved program and secure a teaching position in a public school or an accredited private school in Texas serve a supervised internship during their induction year.

Once a candidate secures a teaching position, PACE personnel coordinate the candidate's entry into the profession by securing mentors from public schools and supervisors from the University. Training is provided for mentors, supervisors and candidates to insure that roles are clearly understood by all participants. For example, requirements for University supervisor visits are structured to insure that time is allotted for discussion before the observation as well as after the observation. Additionally, meetings for new teachers are planned to identify other professional development needs as well as the delivery of the identified programs. Logistically, it is impossible for PACE personnel to cover the entire state. However, by developing collaborative agreements with regional educational service centers, large numbers of potential candidates can be served.

Accessibility of the program to prospective teachers

All classes are Internet delivered which allowed students to take classes at home at their convenience. However, real time communication with the instructor and fellow students is required at times when students are available. Additionally, all students are expected to travel to the University or regional sites to participate in required admission, retention, professional development and testing activities. Communications are primarily electronic using email whenever possible.

The project's enrollment was limited during the first year of the program. This allowed project personnel to maintain high standards and quality control. However, we anticipate the number of teachers certified will increase annually as long as a shortage of special education teachers exists.

Use of available technology

WT Online is the distance education administrative unit at West Texas A&M University. The first online course was delivered in the summer of 1997 with one class of 24 students studying exceptional learners. In the fall of 2001, approximately 2300 students were taught in Internet classes. During the spring 2002 term, approximately 2950 students were enrolled in Internet classes. Over 40 faculty members have been trained to develop and deliver online courses. Admission, registration, advising, financial services, library and bookstore services are provided online to our students. WT Online was utilized to facilitate this project.

Implications

The Internet delivered PACE Special Education program was initiated in the 2001 summer term. In an effort to test the quality of the program design, 100 students were permitted to enroll in EDPD 5531, Foundations and Psychological Principles of Education. This course was designed to provide students with the knowledge and skills needed to pass the Professional Development ExCET tests that are required for all Texas teachers. The professional development test focuses upon social and psychological foundations of education.

While the participants are given one year from program completion to attempt the test, 29 students attempted the exam on its first administration. A total of 29 students took the test including 12 who took the Elementary Professional Development Test and 17 who took the Secondary Professional Development Test. None of the students who completed the Internet course failed the test. Currently, a total of 64 students have attempted to exam with 91 percent successfully completing the exam. The success rates

for students who completed the Internet course have equaled or exceed the success rates for students who completed the traditional program.

Additional data are needed before the success of the program can be assessed. However, preliminary evidence indicates that students can successfully complete teacher certification exams after completing Internet delivered courses. If additional data continues to follow this pattern, the program could be expanded to other high need shortage areas.

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